

## DeMaria, Eva

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**From:** DeMaria, Eva  
**Sent:** Tuesday, October 06, 2015 4:01 PM  
**To:** MANZANO Scott; 'LACEY David'; LARSEN Henning  
**Cc:** Matt McClincy (mcclincy.matt@deq.state.or.us); LIVERMAN Alex (liverman.alex@deq.state.or.us); Michael Allen (allenmc@cdmsmith.com); Sheldrake, Sean  
**Subject:** Rhone Poulenc modeling

Hi all-

In our last meeting, we talked about modeling RP's GW plume and assume that it reaches the Willamette at the levels indicated in the wells. CDM Smith is about to commence that modeling and we were wondering if there were additional inputs that you may have to help refine the model.

Here are the questions and the assumptions:

The following is CDM Smith's understanding of the question to be answered:

if groundwater is discharging uncontrolled to the Willamette River at concentrations observed in monitoring wells adjacent to the river and/or groundwater infiltration to stormwater (I&I) associated with stormwater piping (OF22B) would this contamination result in cap failure. If this is the case then further discussion will be necessary with ODEQ as to whether the groundwater pathway is adequately controlled or should be addressed by a source control alternatives evaluation, or addressed by a remedial action objective and evaluated in the Rhone-Poulenc feasibility study.

Several scoping and technical assumptions need to be clarified, including but not limited to the following three: 1) characterization of "source" for input; 2) specific RAO to derive the values for PRGs; 3) chemicals representing Rhone-Poulenc discharge. Tentatively, 4,4-DDD, chlorobenzene, and 2,3,7,8-TCDD equivalent for dioxin/furans, were discussed.

Evaluate model with two input sources:

1. Develop mean and/or maximum values from upland groundwater data as input.
2. Develop mean and/or maximum values from OF 22B stormwater data using analytical results from June 2015 sampling report

Assume no source control, and that the sediments are already in equilibrium with what's coming from the groundwater plume.

Use the In-Water FS PRGs from RAO 4 and/or RAO 8 – see below descriptions.

Compliance point will be porewater within the cap. Compliance concentrations will be determined by EPA.

Model results will be provided for 30 and 100 year time periods.

Start with two cap configurations; Cap activated carbon content, cap thickness, and cap porosity will be simulated assuming the standard Portland Harbor FS reactive cap (5% AC) and the Portland Harbor FS significantly augmented cap (20% AC and low permeability layer).

Seepage velocity will be set at a range of values (ideally, measured seepage velocities from the site) in order to determine cap effectiveness under a range of transport conditions.

**RAO 4** - Reduce migration of COCs in groundwater to sediment and surface water such that levels are acceptable in sediment and surface water for human exposure.

**RAO 8** - Reduce migration of COCs in groundwater to sediment and surface water such that levels are acceptable in sediment and surface water for ecological exposure.

If you have more inputs, please provide ASAP. CDM plans to have a call with us on their initial modeling attempts on 10/20 with a followup with DEQ around 10/23. However, if necessary, we're available for an earlier conference call to discuss the inputs. Please call or email if you have questions. Thanks.

Eva

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